

JACK LLOYD BURGESS

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA **Entered September 2020**

Doctor of Philosophy in Neural Computation

Ph.D. Program in Neural Computation at the Center for the Neural Basis of Cognition

Dartmouth College, Hanover, NH **June 2020**

A.B. cum laude with High Honors in Computer Science and Neuroscience, GPA 3.71

Senior honors thesis: “Memory constraints in cued-recall-dependent learning and performance tasks: why do humans struggle with simple yet memory-intensive tasks?” (link: https://digitalcommons.dartmouth.edu/senior_theses/153)

Relevant Coursework:

Behavioral Neuroscience

Brain Evolution Graduate Seminar

Cellular and Molecular Neuroscience

Cognitive Neuroscience

Computational Models of Cognition

Digital Electronics

Discrete Math in Computer Science

Introduction to Computational Neuroscience

Machine Learning and Statistical Data Analysis

Neural Bases of Attention and Consciousness

Neuroscience of Reward

Software Design and Implementation

Systems Neuroscience with Lab

Aquincum Institute of Technology (AIT-Budapest), Budapest, Hungary

Fall 2018

Competitive semester-long study abroad program in Computer Science for students from U.S. universities

Coursework: Algorithms and Data Structures, Design Workshop, Semantic and Declarative Technologies, Theory of Computing, Hungarian Language and Culture

Catalina Foothills High School, Tucson, AZ **May 2016**

Science Olympiad (4yr, AZ Champion/National Competitor 2016), Jazz Band/Marching Band (4yr), Varsity Swimming (4yr);
Founded, led, and taught computer programming club “Progrub” (4yr)

EXPERIENCE

Liquidaty, New York, New York **June - August 2020**

Summer Automation Software Engineering Intern

- Worked remotely to build a web-based user interface for designing automated financial data analysis workflows
- Learned web coding in JavaScript with jQuery

Dartmouth College, Brain Engineering Laboratory **January 2017 - June 2020**

Research Assistant, Prof. Richard Granger

- Coded statistical tests to discover patterns in large data sets, presented poster (See schizophrenia publication below)
- Designed and completed a three-term research project under a James O. Freedman Presidential Scholarship, “Using neural algorithms to develop an intelligent agent inspired by the mammalian brain plan”

Carnegie Mellon University and University of Pittsburgh, Center for the Neural Basis of Cognition **May - August 2019**

Summer Undergraduate Research Program in Computational Neuroscience (uPNC)

- 10-week research training and internship in the Cognitive Axon (CoAx) Lab, Prof. Timothy Verstynen
- Built, ran, and analyzed results of a human behavioral experiment testing for separate reward and information values
- **Poster:** “Separately maximizing reward & information in learning” (link: <https://bit.ly/2H9zBiM>)

Dartmouth College, Department of Computer Science **January - March 2019**

Teaching Assistant, CS 74/174 Machine Learning and Statistical Data Analysis, Prof. V.S. Subrahmanian

drfocused, London, United Kingdom **July - August 2016**

Information Technology Intern

- Interned while the drfocused team was participating in the acclaimed Techstars Startup Accelerator
- Researched healthcare policy to support development of app for new reporting processes in UK healthcare

University of Arizona, Tucson, AZ **Summer 2014**

KEYS Summer Research Intern

- Designed and carried out molecular genetic experiments to test the gene Vasa’s role in shrimp development
- **Poster:** “Roles of the vasa gene in the development of *Thamnocephalus*” (link: <https://bit.ly/346P7Vt>)

HONORS & AWARDS

Richard King Mellon Foundation Presidential Fellowship in the Life Sciences	2020 - 2021
Associate Membership in Sigma Xi, the scientific honor society	June 2020
High Honors in Computer Science, Dartmouth College	June 2020
<ul style="list-style-type: none"> • Thesis presentation in the Christopher G. Reed Science Competition 	
James O. Freedman Presidential Scholar (stipend/research award)	Summer 2018 - Spring 2019
Citation for Meritorious Performance in PSYC 81.10 "Neural Bases of Attention and Consciousness"	Winter 2019
AIT-Budapest High Grades Recognition	Fall 2018
Arizona Delegate to the National Youth Science Camp (NYSC), Charleston, WV	Summer 2016
<ul style="list-style-type: none"> • Competitively selected for this national science leadership program for high school graduates, all expenses paid 	

PUBLICATIONS

Bowen, E. F. W., Burgess, J. L., Granger, R., Kleinman, J. E., & Rhodes, C. H. (2019). DLPFC transcriptome defines two molecular subtypes of schizophrenia. *Translational Psychiatry*, 9(1), 147. <https://doi.org/10.1038/s41398-019-0472-z>

ADDITIONAL ACTIVITIES

Dartmouth College Marching Band , Hanover, NH	Fall 2016 - Winter 2020
<i>Show Chair</i> (Fall 2017 and 2019); <i>Webmaster</i> (Winter 2017-Fall 2019)	
Dartmouth College North Park Residential House , Hanover, NH	Fall 2016 - Winter 2020
<i>Executive Council Member</i>	
Dartmouth Club Swim Team , Hanover, NH	Winter 2017 - Winter 2020
<i>Member</i>	
Arizona-Sonora Desert Museum , Tucson, AZ	2012 - 2014
<i>Junior Docent</i>	
<ul style="list-style-type: none"> • Taught visitors at a world-class zoological-botanical garden 	

SKILLS

Programming: Bash, C, Java, JavaScript, MATLAB, Prolog, Python, R, VHDL
 Languages: Basic ability in German, Hungarian, and Japanese; Basic proficiency in Spanish